Scantron Directions

- Write your last name, first name, middle initial, company and platoon AND name of the class
- Fill in the last nine digits of your EDIPI as the identification number
- Number two pencils only

Quiz Directions

- This is a weighted evaluation
- Do NOT use any reference material
- Do NOT talk to other students
- Number two pencils only
- You may not leave the classroom
- There are 10 multiple choice questions
- You will have 10 minutes
- Standby…

Question #1

(TBS-COMM-2101k) You are required to speak to higher. They are located 8.5 Km away. What configuration of communications equipment should you use?

A. AN/PRC-117F; HI PWR; SINCGARS; 10Ft Whip

B. AN/PRC-117F; LO PWR; VHF; 3ft Blade

C. AN/PRC-152, HI PWR; HF; SATCOM WAVEFORM; Spider Antenna

Question #2

(TBS-COMM-2101l) Friendly forces are 500 miles away. You need a form of long haul communication to speak to them?

A. VHF

B. UHF

C. EHF

D. HF

Question #3

(TBS-COMM-2101l) SINCGARS uses which frequency band?

A. VHF

B. HF

C. UHF

D. Rubber

Question #4

(TBS-COMM-2101l) What is the planning range for an AN/PRC-117F in SINCGARS Mode?

A. 28,000 Miles

B. 10 Km

C. 1000Km

D. Indefinite

Question #5

(TBS-COMM-2101j) T or F: AN/PRC-152 is ideal for Intra-Squad communication due to its small size, portability, and limited power output?

A. True

B. False

Times Up

- Pencils down

- Pass scantrons to the left
- Pass scantrons to the front

- All scantrons should be facing the same way

Quiz Review

Question #1

(TBS-COMM-2101k) You are required to speak to higher. They are located 8.5 Km away. What configuration of communications equipment should you use?

A. AN/PRC-117F; HI PWR; SINCGARS; 10Ft Whip

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D. ***HF***

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(TBS-COMM-2101l) SINCGARS uses which frequency band?

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Question #5

(TBS-COMM-2101j) T or F: AN/PRC-152 is ideal for Intra-Squad communication due to its small size, portability, and limited power output?

A. True

B. False

Communications Equipment II

Captain Lawrance P. Andrus

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Overview

- PRC-152 and PRC-150 Multiband Radio
  - High Frequency Band (HF) (p.14)
  - Very High Frequency Band (VHF) (p. 14)
  - Ultra-High Frequency Band (UHF) (p. 15)
- MAGTF Communications System Equipment (PRC-117F) (p. 23-28)
- Practical Application Exercise

PRC-152F: Multiband Radio

- Radio that is capable of operating in more than one frequency band. i.e VHF, UHF.

RT-1916 (PRC-152)

Radio/Spec	RT	Freq Range	Op Mode	Pwr Out	Pl Range
PRC-152	RT-1916	30-512 MHz	VHF, UHF LOS, DED SATCOM, DAMA	5W	5-8KM
VRC-110	2x RT-1916	30-512 MHz	VHF, UHF LOS, DED SATCOM, DAMA	20-50W	20-50KM

- **Harris FALCON III**

- **PRC-152**
  - Heavily employed at the platoon and squad level for VHF, UHF, and SatCom
  - Recommended use for intra-squad communications

- **VRC-110**
  - Same capability in a (dual) vehicle mounted, amplified package

PRC-150: Multiband Radio

- Radio that is capable of operating in more than one frequency band. i.e VHF, HF.

High Frequency (HF)

- Long haul communications
  - Lower HF frequencies can communicate over a greater distance
- Frequency Range: 1.6 - 29.99 MHz

RT-1694 (AN/PRC-150)

Radio/Spec	RT	Freq Range	Modulation Types	Power Output	Planning Ranges(HF)
PRC-150	RT-1694	1.6-60 MHz	USB,LSB,CW,AM,FM	1, 5, 20W-HF 1, 5, 10W-VHF	15 km Ground Wave

- Typically employed at the team and company level to extend voice/data communication beyond Line of Site
  - Capable of talking thousands of Km's when utilizing sky wave transmission (other factors apply)
- Requires x2 BA-5590 (or equivalent) for power
- Typically construct field expedient antennas for long distance transmissions.

Decision Forcing Exercise

Task Organization

Task Organization

-1stBn, 5th Mar

-C Co

-1st Platoon

-2nd Platoon

-3rd Platoon

-FAC

-81mm FO

-CAAT Plt (DS)

-SSP Plt (DS)

-81s Plt (DS)

-MAG-39

Tactical Situation

FRIENDLY SITUATION: You were recently promoted to Company XO. You are the executive officer for Charlie Company, 1st Battalion, 5th Marines. Your Company is currently prepared to conduct Operation Hoplite Fury. Your Company's subordinate units are currently in their respective assembly areas conducting local security patrols. MAG-39 is providing air support.

ENEMY SITUATION: The enemy consists of an Infantry Company and a Light Armor Platoon supported by an Artillery Battery. They are currently in defensive positions.

HIGHER MISSION: O/O, 1st Battalion, 5th Marines clears in zone in order to set conditions for 5th Marines' advance.

Decision Forcing Exercise

- **<u>Use Comm Equip 1/2 (P.14-15;23-26) and Comm Equipment Prac App I/II (p.7;16-17;28)</u>**

1. Given the Tactical Situation and Task Organization, what radio nets would you establish and why? What units need to be on which nets? Include air nets and higher's nets that you wouldn't be responsible for establishing. Keep your subordinate units' likely missions and capabilities in mind. You are not confined to the matrix

Net	Spectrum	Units on net	Reason
BN TAC 1	VHF FH	BN COC, all companies, all DS plts	To allow BN CO to C2 his subord. units

Decision Forcing Exercise

- **<u>Use Comm Equip 1/2 (P.14-15;23-26) and Comm Equipment Prac App I/II (p.7;16-17;28)</u>**

2. What equipment will you need to complete your plan? You must provide gear to all of your units, to include BN COCs, companies, and DS platoons. Include radios by type, non-SL-3 antennas, and any required auxiliary equipment. Break allocation down by unit. You are not confined to the matrix.

Unit/Asset	VRC110	MRC148	PRC-117	PRC-152	DAGR	2590's	DTD		
C CO									
1st Plt									
2nd Plt									
3rd Plt									
CAAT PLT									
SSP PLT									
81S PLT									

Decision Forcing Exercise

- **<u>Use Comm Equip 1/2 (P.14-15;23-26) and Comm Equipment Prac App I/II (p.7;16-17;28)</u>**
- Given the Tactical Situation, Task Organization, and your answer from question 1, what is the number of frequencies and Net IDS required to support ALL of the company's nets? Answer by spectrum. (See Annex J)

Spectrum	#of freqs/NetIDs	Nets
HF		
VHF (SC)		
VHF (FH)		BN TAC 1, …
UHF (LOS)		
UHF (TACSAT)		

Review

- PRC-152 and PRC-150 Multiband Radio
  - High Frequency Band (HF) (p.14)
  - Very High Frequency Band (VHF) (p. 14)
  - Ultra-High Frequency Band (UHF) (p. 15)
- MAGTF Communications System
- Equipment
  - PRC-150 (p. 23)
  - PRC-152 (p. 25-26)
- Practical Application Exercise

Questions?

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Communications Equipment II

"Confronted with a task, and having less information available than is needed to perform that task, an organization may react in either of ***two ways****. One is to* ***increase*** *its* ***information*** *processing capacity, the other to* ***design*** *the organization, and indeed the task itself, in such a way as to enable it to* ***operate on the basis of less information****. These approaches are exhaustive; no others are conceivable. A failure to adopt one or the other will automatically*

—Martin van Creveld, *Command